
ZDX Series

Modem Racks

Owner's Manual



NOTE: This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The CE mark is affixed to the enclosed MultiTech product to confirm compliance with the following European Community Directives:

Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of Member States relating to electromagnetic compatibility;

and

Council Directive 73/23/EEC of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits;

both amended by

Council Directive 93/68/EEC of 22 July 1993 on the harmonization of CE marking requirements.

Owner's Manual
82040205 Revision F
ZDX Series Modem Racks

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Record of Revisions

Revision	Description
D (11/11/96)	Manual revised to include new power requirements and new safety recommendations.
E (4/28/97)	Manual revised to CE mark information and moved safety information to Appendix A.
F (6/15/98)	Manual revised with minor editorial changes. All pages at revision F.

Patents

This Product is covered by one or more of the following U.S. Patent Numbers: **5.301.274; 5.309.562; 5.355.365; 5.355.653; 5.452.289; 5.453.986.** Other Patents Pending.

TRADEMARKS

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Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, Minnesota 55112
(612) 785-3500 or (800) 328-9717
Fax (612) 785-9874
Technical Support (800) 972-2439
BBS (612) 785-3702 or (800) 392-2432
Internet Address: <http://www.multitech.com>
Fax-Back (612) 717-5888

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ZDX Series

Modem Racks

Chapter 1 - Introduction and Description



Introduction

Welcome to the world of data communications. You have one of the finest modem racks made today. This owner's manual provides information that will enable you to install and operate MultiModemZDX fax modems or other communications devices in your ZDXModemRack. This manual covers rack description, technical specifications, power supply, modem installation procedures, RS232C and phone line connections, and powering-up mode.

Description

The ZDXModemRack (Figure 1-1) holds up to 12 modems or other data communications devices with models available in the small footprint "ZDX style" case, such as Multi-Tech MultiFRAD 100 Series frame relay access device ("UnoFRAD," model FR2100), MultiDSU (model MT56DSU-S) DSU/CSUs, or IWayHopper ISDN modems. The ZDXModem-Rack enables you to readily observe data communications activity. Each modem has its own LED display with indicators such as Transmit Data, Receive Data, Carrier Detect, Speed Status, Off Hook, Terminal Ready, Error Correction, and Fax mode.

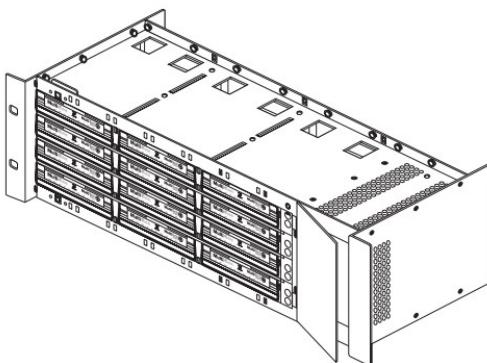


Figure 1-1. ZDXModemRack

The rack is equipped with a redundant, universal input 90-240v AC, 50/60 Hz power supply module. The rack, which measures 19 inches wide by 5-1/4 inches high, can be mounted in the same cabinet as your computer, or in a separate cabinet. Modem installation is accomplished by simply opening the rack door and sliding in the modems. RS232C cables and phone cords are connected to the modem's connectors at the back of the rack.

Technical Specifications

Rack Capacity: Up to 12 compact communication devices

Connectors: IEC 320 Input Power Connector

Dimensions: 19" wide x 5-1/4" high x 7-3/4" deep
48.26cm wide x 13.28cm high x 19.6cm deep

Weights: Rack with power supply: 8 lbs (3.6 kg)
Rack with power supply and 12 modems: 14.5 lbs (6.6 kg)

Power Supply

Input: 90 to 240 Volts AC, 2.0 Amps
2-Amp Slo-Blo fuse

Output: +9 volts DC, regulated
4.4 Amps, maximum

Power

Consumption: 40 watts, for a fully loaded rack

Ambient

Temperature: 32° to 104° F (0° to 40° C)

Indicators: Two LEDs indicate the presence of AC input power and 5 Volts DC power

Note: for specifications of installed modems or other devices, refer to the owner's manual for the device.

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Modem Racks

Chapter 2 - Installation



Power-Up Preliminaries

MultiModemZDX modems are shipped with Command mode enabled and the DTR signal controlled by the interface. It is generally assumed that rackmount modems are used in a central site computer environment (i.e., connected to a mini or mainframe computer) to automatically answer incoming calls from remote users.

Unless you need to give the modem commands, you should **disable** Command mode. Leaving Command mode enabled offers the possibility of a user calling into the modem and reconfiguring it, or causing it to dial out to another location. Refer to the appropriate modem owner's manual to configure the modem for your application.

Safety Warnings

1. Never install telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.
5. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
6. Do not use the telephone to report a gas leak in the vicinity of the leak.
7. This product is for use only with listed computers, or equivalent.

Installation

Perform the following procedure to install the ZDX rack and install up to 12 modems (devices) in the rack. See Figure 2-1.

1. Unpack the rack and check all items against the shipping list to ensure that you have received the correct items.

Rack Components

- A. Rack
 - B. Power Cord
 - C. Owner's Manual
2. Inspect the rack for visible shipping damage. If damage is observed, do not power-on the rack; contact Multi-Tech's Technical Support for advice (refer to Chapter 3).
 3. If no damage is observed, mount the rack in a standard 19-inch wide rack enclosure. Use standard mounting hardware supplied with the rack enclosure.
 4. Open the front door of the ZDX rack.
 5. Unpack the ZDX modems (devices) to be installed in the rack.

Note: Because of the limited height clearance in the ZDX rack, do not attach the plastic feet to the devices; also, do not use the power supply cords supplied with the devices.
 6. Ensure that the power on/off switch on each ZDX modem is set to the On position before sliding the modem (device) into the rack. (The power on/off switch is not accessible once the device is installed in the rack.)
 7. Slide a ZDX modem (or other device) into one of the 12 available slots.

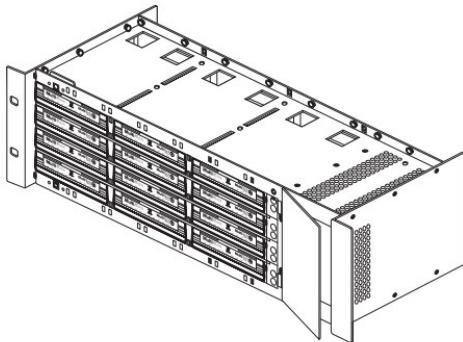


Figure 2-1. Modem Installation

8. Connect the appropriate (i.e., top or bottom) power cable on the back of the rack to the modem's power input jack. (See Figure 2-2.) You may have to hold the modem (device) in place from the front while connecting the power cable. The top power cable supplies power to the top six modems and the bottom power cable supplies power to the bottom six modems (or devices).

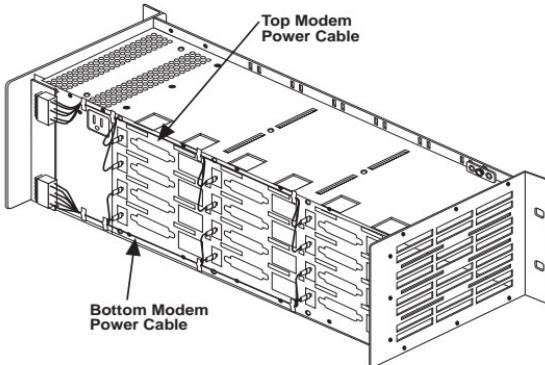


Figure 2-2. Modem Power Connection

9. Repeat steps 6 through 8 for the remaining modems (devices).
10. If necessary, refer to the modem (device) Owner's Manual for connecting the cables and telephone lines to the modems (devices).
11. When all the modems (devices) are connected to the computer and the telephone lines, plug the AC power cord supplied with the rack into the power cord connector on the back of the rack and to a live AC outlet.

Powering Up

Once power is applied to the rack, the modems perform a diagnostic self-test, indicated by the speed LEDs flashing in sequence for approximately two seconds, then the 96, 14, 28, 33, or 56 (depending on the type of device installed) should light. If none of the modems have power applied to them, check the power cord connection to the rack, then check that the AC outlet is live. If one or more modems do not power up, check the power connections to them.

If one of the green power supply LEDs on the front of the rack is not on, then one of the redundant power supplies may be defective (or disconnected from input power).

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Modem Racks

Chapter 3 - Service, Warranty and Tech Support



Introduction

This chapter starts out with statements about your modem rack's 2-year warranty. The next section, Tech Support, should be read carefully if you have questions or problems with your rack. It includes the technical support telephone numbers, space for recording your product information, and an explanation of how to send in your modem rack should you require service. The final three sections explain how to use our bulletin board service (BBS), and get support through CompuServe and the Internet.

Limited Warranty

Multi-Tech Systems, Inc. ("MTS") warrants that its products will be free from defects in material or workmanship for a period of two years from the date of purchase, or if proof of purchase is not provided, two years from date of shipment. **MTS MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.** This warranty does not apply to any products which have been damaged by lightning storms, water, or power surges or which have been neglected, altered, abused, used for a purpose other than the one for which they were manufactured, repaired by the customer or any party without MTS's written authorization, or used in any manner inconsistent with MTS's instructions.

MTS's entire obligation under this warranty shall be limited (at MTS's option) to repair or replacement of any products which prove to be defective within the warranty period, or, at MTS's option, issuance of a refund of the purchase price. Defective products must be returned by Customer to MTS's factory transportation prepaid.

MTS WILL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES AND UNDER NO CIRCUMSTANCES WILL ITS LIABILITY EXCEED THE PURCHASE PRICE FOR DEFECTIVE PRODUCTS.

Tech Support

Multi-Tech has an excellent staff of technical support personnel available to help you get the most out of your Multi-Tech product. If you have any questions about the operation of this unit, call 1-800-972-2439. Please fill out the modem rack information (below), and have it available when you call. If your modem rack requires service, the tech support specialist will guide you on how to send in your rack (refer to the Service section of this chapter).

Recording Rack Information

Please fill in the following information on your Multi-Tech rack. This will help tech support in answering your questions. (The same information is requested on the Warranty Registration Card.)

Model No.: _____

Serial No.: _____

Devices Installed: _____

The model and serial numbers are on the rack.

Please note any diagnostic test results. Use the space below to note rack status:

Service

If your tech support specialist decides that service is required, your rack can be sent (freight prepaid) to our factory. Return shipping charges will be paid by Multi-Tech Systems.

Include the following with your rack:

- a description of the problem.
- return billing and return shipping addresses.
- contact name and phone number.
- check or purchase order number for payment if the rack is out of warranty. (Check with your technical support specialist for the standard repair charge for your rack).
- if possible, note the name of the technical support specialist with whom you spoke.

If you need to inquire about the status of the returned product, be prepared to provide the **serial number** of the product sent (see **Recording Rack Information** on the previous page).

Send your rack to this address:

**MULTI-TECH SYSTEMS, INC.
2205 WOODALE DRIVE
MOUNDS VIEW, MINNESOTA 55112
ATTN: SERVICE OR REPAIRS**

You should also check with the supplier of your CC1600-series modem rack on the availability of local service and/or loaner units in your area.

The Multi-Tech BBS

For customers who do not have Internet access, Multi-Tech maintains a bulletin board system (BBS) that mirrors its FTP site. Information available from the BBS includes new product information, product upgrade files, and problem-solving tips. The phone number for the Multi-Tech BBS is (800) 392-2432 (USA and Canada) or (612) 785-3702 (international and local).

The BBS can be accessed by any asynchronous modem operating at 1200 bps to 33,600 bps at a setting of 8 bits, no parity, and 1 stop bit (8-N-1).

To log on to the Multi-Tech BBS

1. Set your communications program to **8-N-1**.
2. Dial our BBS at (800) 392-2432 (USA and Canada) or (612) 785-3702 (international and local).
3. At the prompts, type your first name, last name, and password; then press ENTER. If you are a first time caller, the BBS asks if your name is spelled correctly. If you answer yes, a questionnaire appears. You must complete the questionnaire to use the BBS on your first call.
4. Press ENTER until the Main Menu appears. From the Main Menu you have access to two areas: the Files Menu and News. For help on menu commands, type **?**.

To Download a file

If you know the file name

1. From the Main Menu, type **F** to access the Files Menu, then type **D**.
2. Enter the name of the file you wish to download from the BBS.
3. If a password is required, enter the password.
4. Answer **Y** or **N** to the automatic logoff question.

5. Select a file transfer protocol by typing the indicated letter, such as **Z** for Zmodem (the recommended protocol).
6. If you select Zmodem, the transfer will begin automatically. If you select another protocol, you may have to initiate the transfer yourself. (In most datacomm programs, the PAGE DOWN key initiates the download.)
7. When the download is complete, press ENTER to return to the File Menu.
8. To exit the BBS, type **G** and press ENTER.

If you don't know the file name

1. From the Main Menu, type **F** to access the Files Menu. For a list of file areas, type **L**, press ENTER, then type **L** and press ENTER again. (If you do not type the second *L*, you will list all of the files on the BBS.)
2. Mark each file area you would like to examine by typing its list number and pressing ENTER.
3. Enter **L** to list all the files in the selected file areas. Enter **C** to go forward in the file list and **P** to go back.
4. To mark one or more files for download, type **M**, press ENTER, type the list numbers of the files, and press ENTER again.
5. Enter **D**. You will see a list of the files you have marked. Enter **E** if you would like to edit the list; otherwise enter **D** again to start the download process.
6. Select a file transfer protocol by typing the indicated letter, such as **Z** for Zmodem (the recommended protocol).
7. If you select Zmodem, the file will transfer automatically. If you select another protocol, you may have to initiate the transfer yourself. (In most data communications programs, the PAGE DOWN key initiates the download.)
8. When the download is complete, press ENTER to return to the File Menu.
9. To exit the BBS, type **G** and press ENTER.

About CompuServe

In addition to the BBS, Multi-Tech provides support through CompuServe's Modem Vendor Forum (GO MODEMVEN). Refer to your CompuServe documentation for special operating procedures.

About the Internet

Multi-Tech is a commercial provider on the Internet. If you prefer to receive service via the internet, you can contact Tech Support via e-mail at the following address:

http://www.multitech.com/_forms/email_tech_support.htm

Multi-Tech's presence includes a Web site at:

<http://www.multitech.com>

and an ftp site at:

<ftp://ftp.multitech.com>

About the Multi-Tech Fax-Back Service

Multi-Tech's fax-back system provides 24-hour access to sales, marketing, and technical literature. Dial 612-717-5888, follow the voice prompts, and request document number 10 for a catalog of available documents. For convenience, have your fax number handy: _____. From the catalog of available documents, you can order newsletters, white papers, press releases, etc. from the sales and marketing index, or order basic modem operation and troubleshooting guides from the technical support and engineering index. Just enter the applicable FB Doc. # from the left column of the catalog.

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Appendices



Appendix A - Safety Requirements

1. No manual adjustments to the equipment are necessary for connection to mains power within rated voltage and frequency.
2. The power supply cord is intended to serve as the disconnect device. The socket-outlet must be installed near the equipment and be easily accessible.
3. To reduce the risk of shock, all openings should be covered during normal operation of the equipment.
4. Use only plugs and cordage for connection of the power supply to primary power which meets the safety and regulatory requirements in the country of use.
5. Conductors must have a cross-sectional area of not less than 1.00 mm².

Exigences de sécurité

1. Aucun réglage manuel de l'équipement n'est nécessaire pour des connexions à l'alimentation principale sous une tension et une fréquence nominales.
2. Le cordon d'alimentation a été conçu pour servir de dispositif de déconnexion. La prise d'alimentation doit être installée près de l'équipement et doit être facile d'accès.
3. Afin de réduire les risques de choc, toutes les ouvertures doivent être couvertes pendant le fonctionnement normal de l'équipement.
4. N'utiliser que des prises et cordons d'alimentation répondant aux normes de sécurité du pays de destination.
5. La superficie de la section des conducteurs doit être supérieure ou égale à 1,00 mm².

Requisitos de seguridad

1. No son necesarios ajustes manuales del equipo para la conexión a la corriente de la red dentro del voltaje y frecuencia establecidas.
2. El conector de alimentación de energía sirve como dispositivo de desconexión. La toma de corriente se debe instalar cerca del equipo y tener un acceso sencillo.
3. Para reducir el riesgo de sacudida eléctrica, todas las aberturas deben estar cubiertas durante el manejo normal del equipo.
4. Utilice solamente los enchufes y cables para la conexión del suministro de energía a la energía primaria que cumplan con los requerimientos regulativos y de seguridad del país en que se usen.
5. Los conductores deben tener un área transversal mayor de 1,00 mm².

Sicherheitsanforderungen

1. Bei Anschluß am Versorgungsnetz innerhalb der Nennleistung und -frequenz ist es nicht erforderlich, dieses Gerät manuell nachzustellen.
2. Die Netzschnur dient als Trennvorrichtung. Die Steckdose muß in der Nähe des Geräts installiert werden, um leicht zugänglich zu sein.
3. Um Elektroschockgefahr zu vermindern, müssen beim normalen Betrieb des Geräts alle Öffnungen abgedeckt sein.
4. Zum Anschluß an das Primärstromnetz nur Stecker und Anschlußkabeln benutzen, die den Sicherheits- und Überwachungsvorschriften des Landes entsprechen, in dem sie angewendet werden.
5. Leitungsdrähte müssen einen Durchmesser von mindestens 1,00 mm² haben.

Mains Wiring Instructions (U.K.)

When wiring the mains plug, the following instructions must be followed:

- the core which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol \pm , or coloured green and yellow.
- the core which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- the core which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Power Requirements

AC 90-245V, 50/60 Hz, 2.0A

DC 40-56V, 2.5A

CAUTION: Safety requirements are not fulfilled unless the equipment is connected to a wall outlet socket that is provided with an earth contact.

Alimentation Requise

C.A. 90-245 V, 50/60 Hz, 2.0A

DC 40-56V, 2.5A

ATTENTION: Les conditions de sécurité ne sont pas remplies si votre équipement n'est pas branché sur une prise murale avec mise à la terre.

Requisitos de potencia

C.A. 90-245 V, 50/60 Hz, 2.0 Amp
DC 40-56V, 2.5A

ATTENCION: Adviertase que los requisitos respecto a medidas de seguridad no quedan satisfechos a menos que este equipo eléctrico esté conectado a una toma de corriente mural conectada a tierra.

Stromaufnahme

AC 90-245V, 50/60 Hz, 2.0A
DC 40-56V, 2.5A

VORSICHT: Die Sicherheitsvorschriften sind nur erfüllt, wenn das Gerät an eine geerdete Wandsteckdose angeschlossen ist.